(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 2 December 2004 (02.12.2004)

PCT

(10) International Publication Number WO 2004/104419 A1

(51) International Patent Classification⁷: 49/06

F04B 49/10,

(21) International Application Number:

PCT/BR2004/000068

(22) International Filing Date: 18 May 2004 (18.05.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: PI0301969-1

22 May 2003 (22.05.2003) BR

- (71) Applicant (for all designated States except US): EM-PRESA BRASILEIRA DE COMPRESSORES S.A. EMBRACO [BR/BR]; Rua Rui Barbosa, 1020, 89219-901 Joinville SC (BR).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): BERWANGER, Egidio [BR/BR]; Estrada Blumeau, KM 15, Joinville, SC (BR).
- (74) Agent: DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA; Caixa Postal 2142, Rua Marquês de Olinda, 70, 22251-040 Rio de Janeiro RJ (BR).

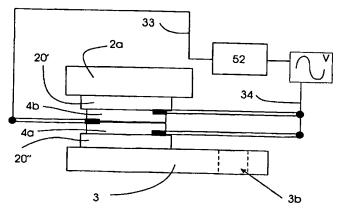
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: A SENSOR ASSEMBLY, A FLUID PUMP AND A COOLER



(57) Abstract: The present invention relates to a sensor assembly 1 for measuring movements of a fluid pump (10), the fluid pump (10) being driven by an electric motor (30) and the electric motor (30) being connectable to a feed voltage (V), the sensor assembly (1) comprising an accelerometer (2) and wherein the accelerometer (2) is electrically associated to a bias circuit (51), and wherein the latter comprises a feed terminal (34) and a signal terminal (33), the feed terminal (34) being electrically connectable to the feed voltage (V) of the motor (30), and the signal terminal (33) being electrically connect able to an external measuring terminal (55). A fluid pump (10) is also described, which comprises a cylinder (58), a piston (57), a housing (50) comprising a hermetic terminal (60) and hermetically enclosing the cylinder (58) and the piston (57), thus forming a hermetic assembly (100), the piston (57) being driven by an electric motor (30), the electric motor (30) being connected to an electric voltage (V) by means of a pair of voltage terminals (61, 62) associated to the hermetic terminal (60), the fluid pump (10) comprising a sensor assembly (1) associated to the cylinder (58), the sensor assembly (1) comprising a feed terminal (34) and a signal terminal (33), the feed terminal (34) being connected to one of the voltage terminals (61, 62) and the signal terminal (33) being electrically connected to an external measuring circuit (55).

WO 2004/104419 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.